

## IN THE CLAIMS

## Claims 1-10 (Cancelled)

11. (Currently Amended) An apparatus for producing polyethylene, the apparatus comprising a main reactor having an inlet for receiving gaseous olefin monomer and an outlet for outputting polyethylene, and a preliminary reactor having an outlet connected to a second inlet of the main reactor, the preliminary reactor being arranged to be operable in the gas phase and having at least one respective inlet for receiving a solid catalyst and at least one treatment agent and a respective outlet for releasing waste gases from the preliminary reactor to provide for removal of the waste gases from the preliminary reactor, and said preliminary reactor further having another outlet connected to a recycle line connected back to said preliminary reactor.

## 12. (Cancelled)

13. (Previously Presented) The apparatus of claim 11 wherein said main reactor is a loop-type reactor.

14. (Previously Presented) The apparatus of claim 11 further comprising a second main reactor connected in series with said first main reactor and connected to the outlet of said first recited main reactor to receive the reaction product from said first recited main reactor.

## 15. (Cancelled)

16. (Previously Presented) The apparatus of claim 24 wherein each of said main reactors are loop-type reactors.

17. (Currently Amended) An apparatus for producing polyethylene, the apparatus comprising a main reactor having an inlet for receiving gaseous olefin monomer and an outlet for outputting polyethylene, and a preliminary reactor having an outlet connected to a second inlet of the main reactor, the preliminary reactor having a different configuration than said main reactor, being arranged to be operable in the gas phase and having at least one respective inlet for receiving a solid catalyst and at least one treatment agent and a respective outlet for releasing waste gases from the preliminary reactor to provide for removal of the waste gases from the preliminary reactor, and preliminary reactor further having another outlet connected to a recycle line connected back to said preliminary reactor.

18. **(Currently Amended)** The apparatus of claim 17 An apparatus for producing polyethylene, the apparatus comprising a main reactor having an inlet for receiving gaseous olefin monomer and an outlet for outputting polyethylene, and a preliminary reactor connected to a second inlet of the main reactor, the preliminary reactor having a different configuration than said main reactor, being arranged to be operable in the gas phase and having at least one respective inlet for receiving a solid catalyst and at least one treatment agent and a respective outlet for releasing waste gases from the preliminary reactor to provide for removal of the waste gases from the preliminary reactor, wherein said main reactor is arranged to be operable as a liquid phase reactor.

19. **(Rejected)** The apparatus of claim 17 wherein said main reactor is a loop-type reactor.

20. **(Previously Presented)** The apparatus of claim 17 further comprising a second main reactor connected in series with said first main reactor and connected to the outlet of said first recited main reactor to receive the reaction product from said first recited main reactor.

21. **(Currently Amended)** The apparatus of claim 20 An apparatus for producing polyethylene, the apparatus comprising a main reactor having an inlet for receiving gaseous olefin monomer and an outlet for outputting polyethylene, and a preliminary reactor connected to a second inlet of the main reactor, the preliminary reactor having a different configuration than said main reactor, being arranged to be operable in the gas phase and having at least one respective inlet for receiving a solid catalyst and at least one treatment agent and a respective outlet for releasing waste gases from the preliminary reactor to provide for removal of the waste gases from the preliminary reactor, further comprising a second main reactor connected in series with said first main reactor and connected to the outlet of said first recited main reactor to receive the reaction product from said first recited main reactor, wherein each of said main reactors are arranged to operate in the liquid phase.

22. **(Previously Presented)** The apparatus of claim 21 wherein each of said main reactors are loop-type reactors.

23. (Previously Presented) An apparatus for producing polyethylene, the apparatus comprising a main reactor arranged to be operated as a liquid phase reactor and having an inlet for receiving gaseous olefin monomer and an outlet for outputting polyethylene, and a preliminary reactor connected to a second inlet of the main reactor, the preliminary reactor being arranged to be operable as a liquid phase reactor and having at least one respective inlet for receiving a solid catalyst and at least one treatment agent and a respective outlet for releasing waste gases from the preliminary reactor.

24. (Previously Presented) An apparatus for producing polyethylene, the apparatus comprising a main reactor having an inlet for receiving gaseous olefin monomer and an outlet for outputting polyethylene, and a preliminary reactor connected to a second inlet of the main reactor, the preliminary reactor being arranged to be operable in the gas phase and having at least one respective inlet for receiving a solid catalyst and at least one treatment agent and a respective outlet for releasing waste gases from the preliminary reactor and further comprising a second main reactor connected in series with said first main reactor and connected to the outlet of said first recited main reactor to receive the reaction product from said first recited main reactor wherein each of said main reactors are arranged to operate in the liquid phase.